

S  
638.16  
M26prus  
1986  
3rd. qtr.  
Poplar River  
Cooperative  
Monitoring  
Arrangement ...  
data exchange,  
United States  
contribution

POPLAR RIVER  
COOPERATIVE MONITORING  
ARRANGEMENT

1986

STATE DOCUMENTS COLLECTION

MAR 12 1990

MONTANA STATE LIBRARY,  
1815 E. 6th AVE.  
HELENA, MONTANA 59620

THIRD QUARTER DATA EXCHANGE  
UNITED STATES CONTRIBUTION

PLEASE RETURN

November 1986

Montana State Library



3 0864 1006 7285 9

## INTRODUCTION


### 1986 - THIRD QUARTER DATA EXCHANGE POPLAR RIVER BASIN

The Poplar River Bilateral Monitoring Committee was authorized by the Governments of Canada and the United States under the Poplar River Cooperative Monitoring Arrangement dated September 23, 1980. The Committee is composed of representatives of the Governments of the United States, State of Montana, Canada, and Province of Saskatchewan. In addition to the representatives of governments, two ex officio members who are local representatives of the State of Montana and Province of Saskatchewan participate in activities of the Committee.

One responsibility of the Committee includes the on-going quarterly exchange of results of water quantity, water quality and air quality monitoring programs. The programs are being conducted in Canada and the United States at or near the International Boundary by cooperative monitoring agencies in accordance with the Technical Monitoring Schedules. Monitoring information is to be transmitted by each Committee co-chairman to his counterpart co-chairman within a reasonable period after the termination of each quarter. In addition, preselected parties are to receive copies of the quarterly exchange.

This package represents information collected by United States sources for the Poplar River basin during the third quarter of 1986. Included are data for surface water quantity and quality, ground-water levels. Air quality monitoring was not done during the reporting period.





Digitized by the Internet Archive  
in 2015

STREAMFLOW MONITORING

Responsible Agency: U.S. Geological Survey

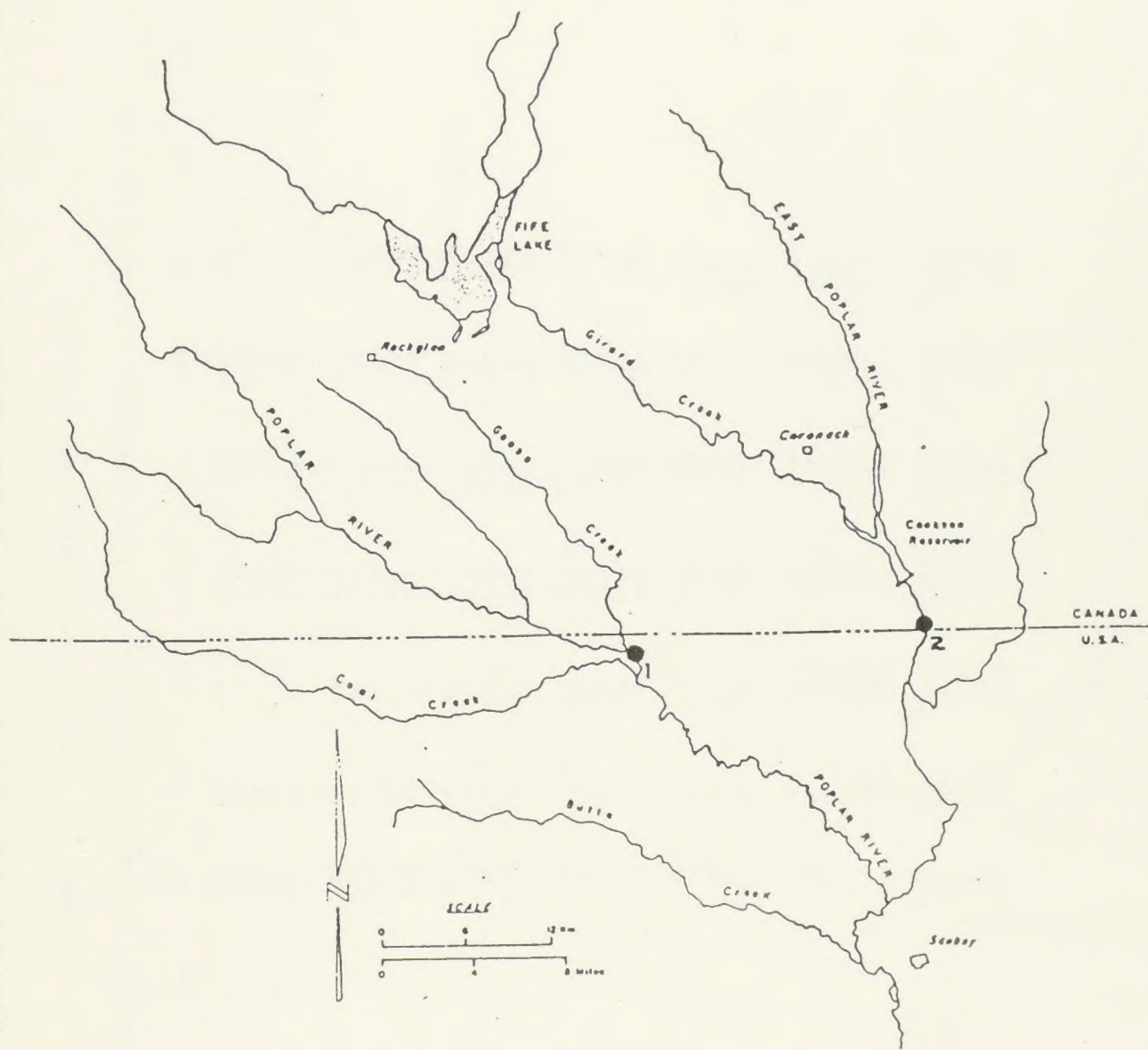
Daily mean discharge or levels and instantaneous monthly extremes  
as normally published in surface water data publications.

| No. on<br><u>Map</u> | USGS<br><u>Station No.</u> | <u>Station Name</u>                       |
|----------------------|----------------------------|---|
| 1                    | 06178000                   | Poplar River at<br>International Boundary |

Responsible Agency: Environment Canada

|   |          |  |
|---|----------|--|
| 2 | 06178500 | East Poplar River at<br>International Boundary |
|---|----------|--|





HYDROMETRIC GAUGING STATIONS





36173000

POPULAR RIVER AT INTERNATIONAL BOUNDARY

DISCHARGE IN CUBIC FEET PER SECOND, CALENDAR YEAR JANUARY 1985 TO DECEMBER 1985  
YEAR VALUES

| DAY   | JAN | FEB | MAR   | APR   | MAY   | JUN   | JUL   | AUG  | SEP   | OCT | NOV | DEC |
|-------|-----|-----|-------|-------|-------|-------|-------|------|-------|-----|-----|-----|
| 1     |     |     | 900   | 20    | 7.9   | 4.6   | .59   | .09  | .28   |     |     |     |
| 2     |     |     | 700   | 20    | 7.1   | 4.0   | .79   | .10  | .16   |     |     |     |
| 3     |     |     | 600   | 20    | 6.5   | 4.9   | .72   | .13  | .12   |     |     |     |
| 4     |     |     | 577   | 19    | 6.3   | 4.9   | .70   | .10  | .10   |     |     |     |
| 5     |     |     | 597   | 18    | 14    | 3.6   | 3.4   | .12  | .12   |     |     |     |
| 6     |     |     | 390   | 18    | 40    | 3.2   | 4.7   | .13  | .11   |     |     |     |
| 7     |     |     | 192   | 16    | 52    | 2.6   | 2.1   | .09  | .13   |     |     |     |
| 8     |     |     | 175   | 14    | 37    | 2.5   | 1.6   | .09  | .13   |     |     |     |
| 9     |     |     | 182   | 13    | 41    | 3.7   | 1.4   | .08  | .13   |     |     |     |
| 10    |     |     | 145   | 12    | 59    | 2.7   | 4.0   | .08  | .23   |     |     |     |
| 11    |     |     | 151   | 11    | 53    | 2.1   | 19    | .09  | .24   |     |     |     |
| 12    |     |     | 116   | 9.3   | 88    | 1.5   | 9.6   | .09  | .19   |     |     |     |
| 13    |     |     | 86    | 9.4   | 52    | 1.1   | 5.0   | .09  | .15   |     |     |     |
| 14    |     |     | 79    | 12    | 37    | 3.1   | 2.7   | .08  | .15   |     |     |     |
| 15    |     |     | 67    | 8.6   | 29    | 5.5   | 2.1   | .07  | .15   |     |     |     |
| 16    |     |     | 60    | 9.3   | 25    | 3.2   | 1.9   | .06  | .15   |     |     |     |
| 17    |     |     | 52    | 11    | 21    | 2.4   | 1.4   | .08  | .15   |     |     |     |
| 18    |     |     | 44    | 12    | 18    | 2.0   | .97   | .07  | .15   |     |     |     |
| 19    |     |     | 36    | 12    | 19    | 2.2   | .59   | .06  | .34   |     |     |     |
| 20    |     |     | 30    | 12    | 15    | 2.2   | .37   | .06  | .57   |     |     |     |
| 21    |     |     | 26    | 11    | 13    | 1.8   | .30   | .07  | .35   |     |     |     |
| 22    |     |     | 27    | 11    | 12    | 1.6   | .23   | .09  | 2.4   |     |     |     |
| 23    |     |     | 24    | 11    | 12    | 1.3   | .20   | .07  | 3.5   |     |     |     |
| 24    |     |     | 23    | 11    | 12    | 1.0   | .19   | .07  | 2.9   |     |     |     |
| 25    |     |     | 25    | 12    | 12    | .77   | .14   | .03  | 5.3   |     |     |     |
| 26    |     |     | 22    | 12    | 11    | .59   | .14   | .05  | 8.2   |     |     |     |
| 27    |     |     | 25    | 12    | 9.7   | .49   | .15   | .07  | 7.4   |     |     |     |
| 28    |     |     | 25    | 11    | 8.6   | .75   | .13   | .07  | 7.0   |     |     |     |
| 29    |     |     | 22    | 10    | 7.1   | .65   | .13   | .07  | 6.2   |     |     |     |
| 30    |     |     | 21    | 8.9   | 6.3   | .71   | .11   | .09  | 5.5   |     |     |     |
| 31    |     |     | 20    | --    | 5.3   | --    | .10   | .25  | --    |     |     |     |
| TOTAL |     |     | 5435  | 337.2 | 753.8 | 72.56 | 65.29 | 2.74 | 52.73 |     |     |     |
| MEAN  |     |     | 175   | 12.9  | 24.3  | 2.42  | 2.11  | .09  | 1.76  |     |     |     |
| MAX   |     |     | 900   | 20    | 83    | 6.8   | 19    | .25  | 8.2   |     |     |     |
| MIN   |     |     | 20    | 8.6   | 5.3   | .45   | .10   | .06  | .10   |     |     |     |
| 10-1  |     |     | 10730 | 763   | 1500  | 144   | 160   | .34  | 105   |     |     |     |



06173500 EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY

DISCHARGE IN CUBIC FEET PER SECOND, MEAN VALUES CALENDAR YEAR JANUARY 1986 TO DECEMBER 1986

| DAY  | JAN  | FEB   | MAR   | APR   | MAY   | JUN   | JUL  | AUG  | SEP  | OCT | NOV | DEC |
|------|------|-------|-------|-------|-------|-------|------|------|------|-----|-----|-----|
| 1    | 2.9  | 2.9   | 17.7  | 7.9   | 5.5   | 3.2   | 2.9  | 2.9  | 2.5  |     |     |     |
| 2    | 2.9  | 2.9   | 23.7  | 7.0   | 4.1   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 3    | 2.9  | 2.9   | 23.0  | 7.2   | 3.9   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 4    | 2.9  | 3.0   | 23.1  | 7.7   | 3.7   | 3.1   | 2.9  | 2.9  | 2.5  |     |     |     |
| 5    | 2.7  | 2.9   | 21.9  | 2.6   | 3.1   | 3.3   | 2.9  | 2.9  | 2.5  |     |     |     |
| 6    | 2.9  | 2.9   | 20.2  | 1.5   | 2.9   | 4.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 7    | 2.5  | 2.9   | 15.5  | 7.9   | 3.1   | 3.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 8    | 2.9  | 2.9   | 7.5   | 5.5   | 3.1   | 3.3   | 2.9  | 2.9  | 2.5  |     |     |     |
| 9    | 2.9  | 2.9   | 7.1   | 1.5   | 4.1   | 3.0   | 2.9  | 2.9  | 2.5  |     |     |     |
| 10   | 2.9  | 2.9   | 7.0   | 1.1   | 4.5   | 3.3   | 2.9  | 2.9  | 2.5  |     |     |     |
| 11   | 3.1  | 2.9   | 7.3   | 5.5   | 3.7   | 3.6   | 2.9  | 2.9  | 2.5  |     |     |     |
| 12   | 3.0  | 2.9   | 7.0   | 1.5   | 5.7   | 3.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 13   | 3.0  | 2.9   | 6.9   | 5.7   | 4.9   | 3.2   | 2.9  | 2.9  | 2.5  |     |     |     |
| 14   | 3.0  | 2.9   | 6.3   | 1.5   | 3.7   | 3.0   | 2.9  | 2.9  | 2.5  |     |     |     |
| 15   | 3.0  | 2.9   | 6.0   | 5.9   | 3.1   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 16   | 3.0  | 2.9   | 5.0   | 2.5   | 2.9   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 17   | 3.0  | 2.9   | 5.2   | 5.9   | 3.9   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 18   | 3.0  | 2.9   | 5.0   | 3.3   | 2.7   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 19   | 3.1  | 2.9   | 5.3   | 1.1   | 4.2   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 20   | 3.1  | 2.9   | 5.9   | 7.9   | 4.0   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 21   | 2.9  | 2.9   | 4.7   | 9.9   | 3.5   | 2.7   | 2.9  | 2.9  | 2.5  |     |     |     |
| 22   | 2.9  | 2.9   | 4.3   | 3.5   | 3.2   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 23   | 2.9  | 2.9   | 2.9   | 1.0   | 3.0   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 24   | 2.9  | 2.9   | 3.4   | 3.9   | 2.9   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 25   | 2.9  | 2.9   | 3.9   | 7.5   | 2.7   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 26   | 2.9  | 4.5   | 4.2   | 7.0   | 2.9   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 27   | 2.9  | 1.9   | 4.0   | 9.6   | 2.7   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 28   | 2.9  | 2.9   | 1.5   | 4.0   | 2.9   | 2.7   | 2.9  | 2.9  | 2.5  |     |     |     |
| 29   | 2.9  | 2.9   | 2.9   | 4.7   | 2.9   | 2.7   | 2.9  | 2.9  | 2.5  |     |     |     |
| 30   | 2.9  | 2.9   | 1.9   | 3.5   | 3.1   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 31   | 2.9  | 2.9   | 1.5   | 7.7   | 2.9   | 3.1   | 2.9  | 2.9  | 2.5  |     |     |     |
| 1986 | 90.4 | 160.4 | 251.5 | 203.5 | 313.2 | 104.6 | 95.7 | 30.9 | 39.2 |     |     |     |
| MEAN | 2.92 | 5.72  | 31.1  | 9.79  | 15.3  | 3.49  | 3.09 | 2.91 | 2.92 |     |     |     |
| MAX  | 3.1  | 4.9   | 23.4  | 7.9   | 5.7   | 4.9   | 3.9  | 2.9  | 2.9  |     |     |     |
| MIN  | 2.7  | 2.9   | 1.4   | 4.0   | 5.5   | 2.9   | 2.9  | 2.9  | 2.5  |     |     |     |
| 1987 | 179  | 319   | 499.0 | 60.7  | 151   | 20.7  | 19.0 | 1.5  | 1.5  |     |     |     |





# SURFACE WATER QUALITY MONITORING

## Station Location

Responsible Agency: U.S. Geological Survey

| No. on Map | USGS Station No. | Station Name                                |
|------------|------------------|---|
| 1          | 06178000         | Poplar River at International Boundary      |
| 2          | 06178500         | East Poplar River at International Boundary |
| 3          | 06179000         | East Poplar River near Scobey               |

## PARAMETERS

WATSTORE\*

Sampling Frequency

| Code  | Parameter              | Analytical method      | No. | 1  | 2  | 3 |
|-------|------------------------|------------------------|-----|----|----|---|
| 00410 | Alkalinity-field       | Elect. Titration       | M   | M  | M  |   |
| 90410 | Alkalinity-lab         | Elect. Titration       | M   | M  | M  |   |
| 01106 | Aluminum-diss          | AA                     | SA  | SA | SA |   |
| 00610 | Ammonia-tot            | Colorimetric           | M   | M  | M  |   |
| 00625 | Ammonia+Org N-tot      | Colorimetric           | M   | M  | M  |   |
| 01000 | Arsenic-diss           | AA, hydride            | SA  | SA | SA |   |
| 01002 | Arsenic-tot            | AA, hydride            | A   | A  | A  |   |
| 01010 | Beryllium-diss         | AA                     | SA  | SA | SA |   |
| 01012 | Beryllium-tot/rec      | AA-persulfate          | A   | A  | A  |   |
| 01020 | Boron-diss             | Colorimetric           | M   | M  | M  |   |
| 01025 | Cadmium-diss           | AA                     | SA  | SA | SA |   |
| 01027 | Cadmium-tot/rec        | AA-persulfate          | A   | A  | A  |   |
| 00915 | Calcium                | AA                     | M   | M  | M  |   |
| 00680 | Carbon-tot Org         | Wet Oxidation          | SA  | SA | SA |   |
| 00940 | Chloride-diss          | Ion chromatography     | M   | M  | M  |   |
| 01030 | Chromium-diss          | AA                     | SA  | SA | SA |   |
| 01034 | Chromium-tot/rec       | AA-persulfate          | A   | A  | A  |   |
| 00080 | Color                  | Electrometric, visual  | M   | M  | M  |   |
| 00095 | Conductivity           | Wheatstone Bridge      | M   | D  | M  |   |
| 01040 | Copper-diss            | AA                     | SA  | SA | SA |   |
| 01042 | Copper-tot/rec         | AA-persulfate          | A   | A  | A  |   |
| 00061 | Discharge-inst         | Direct measur.         | M   | M  | M  |   |
| 00950 | Fluoride               | Electrometric          | M   | M  | M  |   |
| 01046 | Iron-diss              | AA                     | M   | M  | M  |   |
| 01045 | Iron-tot/rec           | AA-persulfate          | A   | A  | A  |   |
| 01049 | Lead-diss              | AA                     | SA  | SA | SA |   |
| 01051 | Lead-tot/rec           | AA-persulfate          | A   | A  | A  |   |
| 00925 | Magnesium-diss         | AA                     | M   | M  | M  |   |
| 01056 | Manganese-diss         | AA                     | SA  | SA | SA |   |
| 01055 | Manganese-tot/rec      | AA-persulfate          | A   | A  | A  |   |
| 01065 | Nickel-diss            | AA                     | SA  | SA | SA |   |
| 01067 | Nickel tot/rec         | AA-persulfate          | A   | A  | A  |   |
| 00615 | Nitrite-tot            | Ion-chromatography     | M   | M  | M  |   |
| 00630 | Nitrate+Nitrite-tot    | Colorimetric           | M   | M  | M  |   |
| 00300 | Oxygen-diss            | Winkler/meter          | M   | M  | M  |   |
| 70507 | Phos, Ortho-tot        | Colorimetric           | M   | M  | M  |   |
| 00400 | pH                     | Electrometric          | M   | M  | M  |   |
| 00665 | Phosphorous-tot        | Colorimetric           | M   | M  | M  |   |
| 00935 | Potassium-diss         | AA                     | M   | M  | M  |   |
| 00931 | SAR                    | Calculated             | M   | M  | M  |   |
| 80154 | Sediment-conc.         | Filtration-gravimetric | M   | M  | M  |   |
| 80155 | Sediment-load          | Calculated             | M   | M  | M  |   |
| 01145 | Selenium-diss          | AA, hydride            | SA  | SA | SA |   |
| 01147 | Selenium tot/rec       | AA, hydride            | A   | A  | A  |   |
| 00955 | Silica                 | Colorimetric           | M   | M  | M  |   |
| 00930 | Sodium                 | AA                     | M   | M  | M  |   |
| 00945 | Sulfate-diss           | Colorimetric           | M   | M  | M  |   |
| 70301 | Total Dissolved Solids | Calculated             | M   | M  | M  |   |
| 00010 | Temp Water             | Toluene                | M   | M  | M  |   |
| 00020 | Temp Air               | Toluene                | M   | M  | M  |   |
| 00076 | Turbidity              | Nephelometric          | M   | M  | M  |   |
| 80020 | Uranium-diss           | Fluorimetric           | -   | MC | -  |   |
| 01090 | Zinc-diss              | AA                     | SA  | SA | SA |   |
| 01092 | Zinc-tot/rec           | AA-persulfate          | A   | A  | A  |   |

\*Computer storage and retrieval system - USGS

Symbols: C-continuous; D-daily; M-monthly; MC-monthly composite; A-annually at high flow; SA-semi-annually at low and high flow; AA-atomic absorption; tot-total; rec-recoverable; diss-dissolved





SURFACE WATER QUALITY MONITORING STATIONS





06173000

- POPLAR RIVER AT INTERNATIONAL BOUNDARY

## WATER QUALITY DATA

| DATE     | TIME  | TEMPER-<br>ATURE<br>(DEG C)<br>(00010) | TEMPER-<br>ATURE<br>(DEG C)<br>(00020) | BARO-<br>METRIC<br>PRES-<br>SURE<br>(MM<br>OF<br>HG)<br>(00025) | CLOUD<br>COVER<br>(PER-<br>CENT)<br>(00032) | WIND<br>SPEED<br>(MILES<br>PER<br>HOUR)<br>(00035) | WEATHER<br>(400<br>CODE<br>NUMBER)<br>(00041) | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS)<br>(00041) | TUR-<br>BID-<br>ITY<br>(NTU)<br>(00076) | COLOR<br>(PLAT-<br>INUM-<br>COEALT<br>UNITS)<br>(00080) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>(US/CM)<br>(00095) | CHLOR-<br>IDE<br>SOLV-<br>ABLE<br>(MG/L)<br>(00100) |
|----------|-------|--|--|---|---|--|---|--|---|---|--|---|
| MAR 1985 |       |  |  |   |   |  |   |  |   |   |  |   |
| 25...    | 11:30 | 4.5                                    | 2.0                                    | 595   | 50  | 520  | 1   | 20   | 1.5                                     | 60  | 713  | 5.  |
| APR      |       |  |  |   |   |  |   |  |   |   |  |   |
| 15...    | 13:00 | 3.0                                    | 2.0                                    | 592   | 100   | 57.0   | 3   | 9.9  | 3.1                                     | 30  | 1030   | 12.   |
| MAY      |       |  |  |   |   |  |   |  |   |   |  |   |
| 15...    | 12:00 | 11.0                                   | 9.0                                    | 592   | 99  | 525  | 3   | 34   | 4.2                                     | 60  | 1050   | 7.  |
| JUN      |       |  |  |   |   |  |   |  |   |   |  |   |
| 13...    | 10:30 | 22.0                                   | 25.0                                   | 597   | 0   | 50   | 2   | 2.0  | 2.2                                     | 45  | 1150   | 7.  |
| JUL      |       |  |  |   |   |  |   |  |   |   |  |   |
| 15...    | 15:30 | 26.5                                   | 29.0                                   | 596   | 0   | 50   | 0   | 1.9  | 4.0                                     | 50  | 1220   | 12.   |
| AUG      |       |  |  |   |   |  |   |  |   |   |  |   |
| 17...    | 09:45 | 13.0                                   | 25.0                                   | 593   | 0   | 50   | 0   | 0.02   | --                                      | --  | 1730   | 7.  |
| SEP      |       |  |  |   |   |  |   |  |   |   |  |   |
| 15...    | 13:00 | 3.0                                    | 5.0                                    | 701   | 100   | 50   | 3   | 0.15   | 4.2                                     | 20  | 1410   | 5.  |



06173000

- POPLAR RIVER AT INTERNATIONAL BOUNDARY

## WATER QUALITY DATA

| DATE     | OXYGEN,<br>D15-<br>SOLVED<br>(PER-<br>CENT<br>SATUR-<br>ATION)<br>(00301)<br>(00301) | PH<br>(STAND-<br>ARD<br>UNITS)<br>(00400)<br>(00400) | PH<br>(STAND-<br>ARD<br>UNITS)<br>(00400)<br>(00400) | CARBON<br>DIOXIDE<br>D15-<br>SOLVED<br>(MG/L<br>AS CO2)<br>(00405)<br>(00405) | NITRO-<br>GEN,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N)<br>(00605)<br>(00605) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS N)<br>(00610)<br>(00610) | NITRO-<br>GEN,<br>NITRATE<br>TOTAL<br>(MG/L<br>AS N)<br>(00615)<br>(00615) | NITRO-<br>GEN,<br>NITRATES<br>TOTAL<br>(MG/L<br>AS N)<br>(00625)<br>(00625) | NITRO-<br>GEN,<br>NITRATES<br>TOTAL<br>(MG/L<br>AS N)<br>(00630)<br>(00630) | PHOS-<br>PHORUS,<br>TOTAL<br>(MG/L<br>AS P)<br>(00635)<br>(00635) | CARBON,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS C)<br>(00640)<br>(00640) | PHOS-<br>PHORUS,<br>TOTAL<br>(MG/L<br>AS P)<br>(00645)<br>(00645) |
|----------|--|--|--|---|--|--|--|---|---|---|---|---|
| MAR 1952 | 96   | 8.5  | 8.3  | 1.2   | 0.58   | 0.02   | <0.01  | 0.9   | <0.10   | 0.05  | 3.5   | 0.05  |
| APR 1952 | 102  | 8.4  | 8.4  | 3.3   | 0.45   | 0.05   | <0.01  | 0.5   | <0.10   | 0.02  | --  | 0.02  |
| MAY 1952 | 78   | 8.7  | 8.4  | 1.9   | 1.1  | 0.19   | <0.01  | 1.3   | <0.10   | 0.06  | --  | 0.06  |
| JUN 1952 | 97   | 8.7  | 8.7  | 1.7   | 0.93   | 0.07   | <0.01  | 1.9   | <0.10   | 0.02  | --  | 0.02  |
| JUL 1952 | 167  | 9.0  | 9.0  | 0.9   | 1.3  | 0.05   | 0.01   | 1.1   | <0.10   | 0.13  | --  | 0.13  |
| AUG 1952 | 37   | 8.9  | --   | --  | --   | --   | --   | --  | --  | --  | --  | --  |
| SEP 1952 | 74   | 8.4  | 8.4  | 1.8   | --   | <0.01  | <0.01  | 3.3   | <0.10   | 0.03  | --  | 0.03  |





06172300

- POPULAR RIVER AT INTERNATIONAL BOUNDARY

MALES QUALITY DATA

[illegible]



06178903

- POPPLAR RIVER AT INTERNATIONAL BOUNDARY

WAYS? QUALITY CARE

[illegible]





06173000

- POPLAR RIVER AT INTERNATIONAL BOUNDARY

## WATER QUALITY DATA

| DATE     | IRON,<br>DIS-<br>SOLVED<br>(UG/L<br>AS FE)<br>(01046) |   | LEAD,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS PB)<br>(01049) |   | LEAD,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS MN)<br>(01051) |    | MANGA-<br>NESE,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS MN)<br>(01055) |   | MANGA-<br>NESE,<br>DIS-<br>SOLVED<br>(UG/L<br>AS MN)<br>(01056) |   | NICKEL,<br>DIS-<br>SOLVED<br>(UG/L<br>AS NI)<br>(01058) |   | NICKEL,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS NI)<br>(01067) |   | ZINC,<br>DIS-<br>SOLVED<br>(UG/L<br>AS ZN)<br>(01090) |   | ZINC,<br>TOTAL<br>RECOV-<br>ERABLE<br>(UG/L<br>AS ZN)<br>(01092) |   | ALUM-<br>INUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS AL)<br>(01109) |   | SELE-<br>NIUM,<br>DIS-<br>SOLVED<br>(UG/L<br>AS SE)<br>(01145) |  |
|----------|---|---|--|---|--|----|--|---|---|---|---|---|--|---|---|---|--|---|--|---|--|--|
|          | 1   | 2 | 1  | 2 | 20   | 13 | 1  | 1 | 1   | 1 | 1   | 1 | 1  | 1 | 1   | 1 | 1  | 1 | 1  | 1 | 1  |  |
| MAR 1959 | 150   |   |  |   |  |    |  |   |   |   |   |   |  |   |   |   |  |   |  |   |  |  |
| APR 1959 | 14  |   |  |   |  |    |  |   |   |   |   |   |  |   |   |   |  |   |  |   |  |  |
| MAY 1959 | 150   |   |  |   |  |    |  |   |   |   |   |   |  |   |   |   |  |   |  |   |  |  |
| JUN 1959 | 32  |   |  |   |  |    |  |   |   |   |   |   |  |   |   |   |  |   |  |   |  |  |
| JUL 1959 | 73  |   |  |   |  |    |  |   |   |   |   |   |  |   |   |   |  |   |  |   |  |  |
| AUG 1959 | --  |   |  |   |  |    |  |   |   |   |   |   |  |   |   |   |  |   |  |   |  |  |
| SEP 1959 | 13  |   |  |   |  |    |  |   |   |   |   |   |  |   |   |   |  |   |  |   |  |  |



06175000

- POPLAR RIVER AT INTERNATIONAL BOUNDARY

## WATER QUALITY DATA

| DATE      | SELE-<br>NIUM,<br>TOTAL<br>(UG/L<br>AS SE)<br>(01147) | SOLIDS,<br>SOLUBLE<br>CONSTITU-<br>ENTS,<br>DIS-<br>SOLVED<br>(MG/L)<br>(70301) | SOLIDS,<br>DIS-<br>SOLVED<br>(TONS<br>PER<br>DAY)<br>(70302) | SOLIDS,<br>DIS-<br>SOLVED<br>(TONS<br>PER<br>AC-FT)<br>(70303) | SED-<br>SUSP-<br>SIEVE<br>DIAM.<br>& FINER<br>THAN<br>0.062 MM<br>(70331) | PHOS-<br>PHORUS,<br>ORTHOPHOS-<br>PHATE<br>TOTAL<br>(MG/L<br>AS P)<br>(70507) | SED-<br>MENT,<br>SUS-<br>PENDED<br>(MG/L)<br>(90152) | SED-<br>MENT,<br>SUS-<br>PENDED<br>(T/DAY)<br>(02155) | SED-<br>CITIC-<br>CON-<br>CEN-<br>TRATION<br>(US/GM)<br>(90095) | ALKAL-<br>INITY<br>LAE<br>(MG/L<br>AS<br>CAO3)<br>(90410) | HARD-<br>NESS<br>NONCAR-<br>BONATE<br>(MG/L<br>AS<br>CAO3)<br>(95902) |
|-----------|---|---|--|--|---|---|--|---|---|---|---|
| MAY 1966  |   |   |  |  |   |   |  |   |   |   |   |
| 122       | <1  | 460   | 32   | 0.63   | 61  | 0.02  | 10   | 0.69  | 750   | 326   | 235   |
| MAY 13... | --  | 630   | 13   | 0.92   | 35  | 0.02  | 14   | 0.37  | 1060  | 434   | 303   |
| MAY 15... | --  | 770   | 71   | 1.0  | 61  | 0.03  | 103  | 9.5   | 1160  | 494   | 342   |
| JUN 13... | --  | 630   | 3.6  | 0.93   | 71  | 0.01  | 21   | 0.11  | 1100  | 452   | 224   |
| JUL 15... | --  | 770   | 3.0  | 1.1  | 82  | 0.07  | 25   | 0.13  | 1120  | 460   | 272   |
| AUG 15... | --  | --  | --   | --   | --  | --  | --   | --  | --  | --  | --  |
| SEP 15... | --  | 1100  | 0.46   | 1.5  | --  | 0.02  | --   | --  | 1530  | 556   | 355   |



06173500

- EAST POPULAR RIVER AT INTERNATIONAL BOUNDARY

## WATER QUALITY DATA

| DATE     | TIME  | TEMPER-<br>ATURE<br>(DEG C)<br>(00010) | TEMPER-<br>ATURE<br>(DEG C)<br>(00020) | PRES-<br>SURE<br>(MM<br>OF<br>HG)<br>(00025) | CLOUD<br>COVER<br>(PER-<br>CENT)<br>(00032) | WIND<br>SPEED<br>(MILES<br>PER<br>HOUR)<br>(00035) | WEATHER<br>(WMO<br>CODE<br>NUMBER)<br>(00041) | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS)<br>(00061) | TUR-<br>BID-<br>ITY<br>(ATU)<br>(00076) | COLOR<br>(PLAT-<br>INUM-<br>COBALT<br>UNITS)<br>(00080) | SPEC-<br>IFIC<br>CON-<br>DUCT-<br>ANCE<br>(US/CM)<br>(00095) | OXYGEN,<br>DIS-<br>SOLVED<br>(MG/L)<br>(00300) |
|----------|-------|--|--|--|---|--|---|--|---|---|--|--|
| JAN 1950 |       |  |  |  |   |  |   |  |   |   |  |  |
| FEB      | 13:30 | 0.0                                    | 3.5                                    | 699  | 0   | 50   | 0   | 5.1  | 2.0                                     | 7   | 1500   | 5.7  |
| MAR      | 11:45 | 0.0                                    | -19.0                                  | 595  | 100   | 50   | 71  | 5.3  | 2.0                                     | 12  | 1430   | 5.7  |
| APR      | 15:15 | 2.0                                    | 12.0                                   | 692  | 75  | 57.0   | 1   | 22   | 5.5                                     | 30  | 1120   | 6.5  |
| MAY      | 10:30 | 3.0                                    | 2.0                                    | 692  | 100   | 53.0   | 3   | 4.1  | 6.0                                     | 15  | 1150   | 11.0   |
| JUN      | 10:00 | 3.0                                    | 5.0                                    | 695  | 95  | 51.7   | 3   | 12   | 3.2                                     | 20  | 1210   | 9.7  |
| JUL      | 14:30 | 21.5                                   | 23.0                                   | 701  | 0   | 51.7   | 0   | 2.4  | 4.2                                     | 25  | 1250   | 3.3  |
| AUG      | 05:00 | 20.5                                   | 24.0                                   | 703  | 0   | 50   | 0   | 3.7  | 4.5                                     | 30  | 1300   | 3.9  |
| SEP      | 11:45 | 20.5                                   | 24.0                                   | 705  | 0   | 50   | 0   | 3.7  | 3.5                                     | 30  | 1320   | 3.9  |
| OCT      | 12:00 | 20.5                                   | 24.0                                   | 705  | 0   | 50   | 0   | 3.7  | 2.5                                     | 30  | 1320   | 5.0  |
| NOV      | 14:30 | 21.0                                   | 29.0                                   | 700  | 0   | 50   | 0   | 2.3  | --                                      | --  | 1350   | 7.5  |
| DEC      | 10:00 | 2.5                                    | 7.5                                    | 704  | 90  | 50   | 2   | 31.0   | --                                      | --  | 1450   | 7.8  |



C5173500

- EAST POPULAR RIVER AT INTERNATIONAL BOUNDARY

WATER QUALITY DATA

| DATE     | OXYGEN,<br>DISS-<br>SOLVED<br>(PER-<br>CENT<br>SATUR-<br>ATION)<br>(00101)<br>(00101) | PH<br>LAZ<br>(STAND-<br>ARD<br>UNITS)<br>(00403)<br>(00403) | CARBON<br>DIOXIDE<br>DISS-<br>SOLVED<br>(MG/L<br>AS CO2)<br>(00403)<br>(00403) | NITRO-<br>GEN,<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N)<br>(00605)<br>(00600) | NITRO-<br>GEN,<br>AMMONIA<br>TOTAL<br>(MG/L<br>AS N)<br>(00610)<br>(00615) | NITRO-<br>GEN,<br>NITRATE<br>TOTAL<br>(MG/L<br>AS N)<br>(00615)<br>(00620) | NITRO-<br>GEN,<br>MONIA *<br>ORGANIC<br>TOTAL<br>(MG/L<br>AS N)<br>(00625)<br>(00630) | NITRO-<br>GEN,<br>NITRUS<br>TOTAL<br>(MG/L<br>AS N)<br>(00630)<br>(00645) |
|----------|---|---|--|--|--|--|---|---|
| JAN 1984 |   |   |  |  |  |  |   |   |
| 14...    | 43  | 7.6   | 7.7  | 25   | 1.3  | 0.33   | 0.77  | 0.01  |
| 15...    | 43  | 7.6   | 7.6  | 23   | 1.2  | 0.25   | 0.75  | 0.01  |
| 16...    | 70  | 8.4   | 8.5  | 1.0  | 1.0  | --   | <0.01   | 0.01  |
| 17...    | 70  | 8.3   | 8.3  | 4.1  | 1.1  | 0.32   | 0.18  | 0.01  |
| 18...    | 57  | 8.7   | 8.4  | 1.6  | --   | 0.34   | 0.06  | 0.01  |
| 19...    | 103   | 8.6   | 8.3  | 2.4  | --   | 0.36   | 0.04  | 0.01  |
| 20...    | 107   | 8.3   | 8.3  | 4.0  | --   | 0.6  | 0.10  | 0.01  |
| 21...    | 107   | 8.3   | 8.3  | 4.0  | --   | 0.53   | 0.07  | 0.01  |
| 22...    | 107   | 8.3   | 8.4  | 4.0  | --   | 0.62   | 0.08  | 0.01  |
| 23...    | 92  | 8.3   | --   | --   | --   | --   | --  | --  |
| 24...    | 73  | 8.1   | --   | --   | --   | --   | --  | --  |
| 25...    |   |   |  |  |  |  |   |   |
| 26...    |   |   |  |  |  |  |   |   |
| 27...    |   |   |  |  |  |  |   |   |
| 28...    |   |   |  |  |  |  |   |   |
| 29...    |   |   |  |  |  |  |   |   |
| 30...    |   |   |  |  |  |  |   |   |
| 31...    |   |   |  |  |  |  |   |   |
| 32...    |   |   |  |  |  |  |   |   |
| 33...    |   |   |  |  |  |  |   |   |
| 34...    |   |   |  |  |  |  |   |   |
| 35...    |   |   |  |  |  |  |   |   |
| 36...    |   |   |  |  |  |  |   |   |
| 37...    |   |   |  |  |  |  |   |   |
| 38...    |   |   |  |  |  |  |   |   |
| 39...    |   |   |  |  |  |  |   |   |
| 40...    |   |   |  |  |  |  |   |   |
| 41...    |   |   |  |  |  |  |   |   |
| 42...    |   |   |  |  |  |  |   |   |
| 43...    |   |   |  |  |  |  |   |   |
| 44...    |   |   |  |  |  |  |   |   |
| 45...    |   |   |  |  |  |  |   |   |
| 46...    |   |   |  |  |  |  |   |   |
| 47...    |   |   |  |  |  |  |   |   |
| 48...    |   |   |  |  |  |  |   |   |
| 49...    |   |   |  |  |  |  |   |   |
| 50...    |   |   |  |  |  |  |   |   |
| 51...    |   |   |  |  |  |  |   |   |
| 52...    |   |   |  |  |  |  |   |   |
| 53...    |   |   |  |  |  |  |   |   |
| 54...    |   |   |  |  |  |  |   |   |
| 55...    |   |   |  |  |  |  |   |   |
| 56...    |   |   |  |  |  |  |   |   |
| 57...    |   |   |  |  |  |  |   |   |
| 58...    |   |   |  |  |  |  |   |   |
| 59...    |   |   |  |  |  |  |   |   |
| 60...    |   |   |  |  |  |  |   |   |
| 61...    |   |   |  |  |  |  |   |   |
| 62...    |   |   |  |  |  |  |   |   |
| 63...    |   |   |  |  |  |  |   |   |
| 64...    |   |   |  |  |  |  |   |   |
| 65...    |   |   |  |  |  |  |   |   |
| 66...    |   |   |  |  |  |  |   |   |
| 67...    |   |   |  |  |  |  |   |   |
| 68...    |   |   |  |  |  |  |   |   |
| 69...    |   |   |  |  |  |  |   |   |
| 70...    |   |   |  |  |  |  |   |   |
| 71...    |   |   |  |  |  |  |   |   |
| 72...    |   |   |  |  |  |  |   |   |
| 73...    |   |   |  |  |  |  |   |   |
| 74...    |   |   |  |  |  |  |   |   |
| 75...    |   |   |  |  |  |  |   |   |
| 76...    |   |   |  |  |  |  |   |   |
| 77...    |   |   |  |  |  |  |   |   |
| 78...    |   |   |  |  |  |  |   |   |
| 79...    |   |   |  |  |  |  |   |   |
| 80...    |   |   |  |  |  |  |   |   |
| 81...    |   |   |  |  |  |  |   |   |
| 82...    |   |   |  |  |  |  |   |   |
| 83...    |   |   |  |  |  |  |   |   |
| 84...    |   |   |  |  |  |  |   |   |
| 85...    |   |   |  |  |  |  |   |   |
| 86...    |   |   |  |  |  |  |   |   |
| 87...    |   |   |  |  |  |  |   |   |
| 88...    |   |   |  |  |  |  |   |   |
| 89...    |   |   |  |  |  |  |   |   |
| 90...    |   |   |  |  |  |  |   |   |
| 91...    |   |   |  |  |  |  |   |   |
| 92...    |   |   |  |  |  |  |   |   |
| 93...    |   |   |  |  |  |  |   |   |
| 94...    |   |   |  |  |  |  |   |   |
| 95...    |   |   |  |  |  |  |   |   |
| 96...    |   |   |  |  |  |  |   |   |
| 97...    |   |   |  |  |  |  |   |   |
| 98...    |   |   |  |  |  |  |   |   |
| 99...    |   |   |  |  |  |  |   |   |
| 100...   |   |   |  |  |  |  |   |   |









(417550?)

- EAST COAST RIVER AT INTERNATIONAL BOUNDARY

# ENTER QUALITY DATA



ALTC ALITY CULITY CULITY





05173500

- EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY

## WATER QUALITY DATA:

[illegible]



06173500

EAST POOLAR RIVER AT INTERNATIONAL BOUNDARY

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C)\* CALENDAR YEAR JANUARY 1986 TO DECEMBER 1986  
ONCE-DAILY

| DAY   | JAN   | FEB  | MAR   | APR   | MAY   | JUN   | JUL   | AUG   | SEP   | OCT | NOV | DEC |
|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|
| 1     | 1390  | 1290 | 1170  | 1150  | 1230  | 1270  | 1390  | 1420  | 1390  |     |     |     |
| 2     | 1320  | 1340 | 1230  | 1170  | 1250  | 1280  | 1390  | 1410  | 1370  |     |     |     |
| 3     | 1360  | 1360 | 1200  | 1240  | 1290  | 1290  | 1410  | 1410  | 1390  |     |     |     |
| 4     | 1330  | 1370 | 1220  | 1190  | 1300  | 1300  | 1400  | 1400  | 1400  |     |     |     |
| 5     | 1400  | 1330 | 1190  | 1200  | 1220  | 1320  | 1370  | 1360  | 1390  |     |     |     |
| 6     | 1340  | 1400 | 1160  | 1250  | 1330  | 1420  | 1370  | 1400  | 1370  |     |     |     |
| 7     | 1320  | 1390 | 1160  | 1330  | 1390  | 1390  | 1300  | 1400  | 1340  |     |     |     |
| 8     | 1340  | 1400 | 1160  | 1300  | 1340  | 1420  | 1400  | 1390  | 1400  |     |     |     |
| 9     | 1410  | 1400 | 1150  | 1250  | 1360  | 1400  | 1390  | 1400  | 1430  |     |     |     |
| 10    | 1400  | 1500 | 1160  | 1290  | 1440  | 1390  | 1390  | 1420  | 1420  |     |     |     |
| 11    | 1330  | 1520 | 1150  | 1320  | 1390  | 1350  | 1400  | 1430  | 1390  |     |     |     |
| 12    | 1390  | 1430 | 1150  | 1230  | 1450  | 1340  | 1420  | 1400  | 1370  |     |     |     |
| 13    | 1430  | 1400 | 1150  | 1130  | 1400  | 1320  | 1420  | 1410  | 1390  |     |     |     |
| 14    | 1450  | 1430 | 1150  | 1260  | 1330  | 1340  | 1410  | 1420  | 1450  |     |     |     |
| 15    | 1440  | 1500 | 1140  | 1220  | 1240  | 1270  | 1410  | 1410  | 1450  |     |     |     |
| 16    | 1450  | 1470 | 1140  | 1210  | 1200  | 1260  | 1410  | 1410  | 1400  |     |     |     |
| 17    | 1460  | 1460 | 1140  | 1230  | 1190  | 1280  | 1430  | 1410  | 1400  |     |     |     |
| 18    | 1450  | 1460 | 1140  | 1350  | 1210  | 1320  | 1420  | 1390  | 1400  |     |     |     |
| 19    | 1440  | 1470 | 1140  | 1440  | 1270  | 1340  | 1440  | 1400  | 1400  |     |     |     |
| 20    | 1440  | 1470 | 1140  | 1210  | 1270  | 1390  | 1430  | 1400  | 1450  |     |     |     |
| 21    | 1440  | 1470 | 1140  | 1230  | 1290  | 1360  | 1430  | 1420  | 1420  |     |     |     |
| 22    | 1490  | 1470 | 1130  | 1220  | 1300  | 1390  | 1440  | 1430  | 1460  |     |     |     |
| 23    | 1470  | 1480 | 1130  | 1290  | 1270  | 1370  | 1440  | 1420  | 1440  |     |     |     |
| 24    | 1490  | 1480 | 1150  | 1400  | 1280  | 1380  | 1420  | 1420  | 1440  |     |     |     |
| 25    | 1490  | 1470 | 1150  | 1250  | 1260  | 1360  | 1420  | 1420  | 1430  |     |     |     |
| 26    | 1460  | ---  | 1130  | 1240  | 1270  | 1390  | 1430  | 1430  | 1400  |     |     |     |
| 27    | 1500  | ---  | 1160  | 1290  | 1280  | 1390  | 1440  | 1420  | 1390  |     |     |     |
| 28    | 1500  | ---  | 1170  | 1360  | 1280  | 1400  | 1430  | 1420  | 1390  |     |     |     |
| 29    | 1490  | ---  | 1140  | 1400  | 1290  | 1400  | 1410  | 1410  | 1390  |     |     |     |
| 30    | 1430  | ---  | 1130  | 1400  | 1260  | 1400  | 1410  | 1410  | 1400  |     |     |     |
| 31    | 1500  | ---  | 1190  | ---   | 1280  | ---   | 1430  | 1410  | ---   |     |     |     |
| TOTAL | 44370 | ---  | 36370 | 33140 | 40330 | 40560 | 43760 | 43950 | 42230 |     |     |     |
| MEAN  | 1430  | ---  | 1150  | 1270  | 1300  | 1350  | 1410  | 1410  | 1410  |     |     |     |
| MAX   | 1500  | ---  | 1230  | 1440  | 1450  | 1420  | 1440  | 1420  | 1460  |     |     |     |
| MIN   | 1320  | ---  | 1110  | 1130  | 1120  | 1260  | 1320  | 1320  | 1340  |     |     |     |



06170000

- EAST FORK POPLAR RIVER NEAR SCOSSEY, MT.

## WATER QUALITY DATA

| DATE     | TIME  | TEMPER-<br>ATURE<br>(DEG C)<br>(00010) | TEMPER-<br>ATURE<br>AIR<br>(DEG C)<br>(00020) | AIR-<br>METRIC<br>PRES-<br>SURE<br>(MM<br>OF<br>HG)<br>(00025) | CLOUD<br>COVER<br>(PER-<br>CENT)<br>(00032) | WIND<br>SPEED<br>(MILES<br>PER<br>HOUR)<br>(00035) | WEATHER<br>(AMD<br>CODE<br>NUMBER)<br>(00041) | STREAM-<br>FLOW,<br>INSTAN-<br>TANEOUS<br>(CFS)<br>(00061) | TUR-<br>BID-<br>ITY<br>(NTU)<br>(00075) | COLOR<br>(PLAT-<br>INUM-<br>COBALT<br>UNITS)<br>(00080) | SPE-<br>CIFIC<br>CON-<br>DUCT-<br>ANCE<br>FACT-<br>OR<br>(US/GM<br>(00095) | CHLORO-<br>PHYL-<br>L<br>CON-<br>CENT-<br>RATION<br>(MG/L)<br>(00100) |
|----------|-------|--|---|--|---|--|---|--|---|---|--|---|
| JAN 1986 |       |  |   |  |   |  |   |  |   |   |  |   |
| 14...    | 15:00 | 0.0                                    | 3.0   | 700  | 0   | 30   | 0   | 1.5  | 2.5                                     | 10  | 1500   | --  |
| 15...    | 03:00 | 4.0                                    | 1.5   | 593  | 10  | 30   | 1   | 33   | 10                                      | 40  | 1000   | 3.5   |
| 16...    | 09:00 | 2.0                                    | 1.0   | 700  | 100   | 33.0   | 3   | 12   | 4.3                                     | 15  | 1230   | 9.3   |
| 17...    | 15:00 | 13.0                                   | 5.5   | 593  | 55  | 315  | 1   | 20   | 4.0                                     | 30  | 1230   | 9.2   |
| 18...    | 06:00 | 21.0                                   | 25.0  | 700  | 0   | 30   | 0   | 3.7  | 4.1                                     | 40  | 1250   | 5.0   |
| 19...    | 09:00 | 20.0                                   | 21.0  | 700  | 0   | 312  | 0   | 4.1  | 5.0                                     | 20  | 1300   | 6.5   |
| 20...    | 03:00 | 13.0                                   | 20.0  | 700  | 0   | 30   | 0   | 1.6  | --                                      | 40  | 1400   | 5.5   |
| 21...    | 05:00 | 9.0                                    | 7.0   | 704  | 90  | 30   | 3   | 3.9  | --                                      | --  | 1500   | 3.0   |



CC617930

- EAST FORK POPLAR RIVER NEAR SCOTTY, W. T.

## WATER QUALITY DATA

[illegible]





05179000

- EAST FORK POPLAR RIVER NEAR SCOTNEY, MT.

DATA QUALITY DATA

[illegible]













06179709

- EAST FORK POPLAR RIVER NEAR SCOEY, MT.

WATER QUALITY DATA

[illegible]



GROUND WATER LEVELS TO MONITOR

POTENTIAL DRAWDOWN DUE TO

COAL SEAM DEWATERING

Responsible Agency: Montana Bureau of Mines and Geology

No. on Map

Sampling

2 to 22

Determine water levels  
quarterly





GROUND WATER PIEZOMETERS TO MONITER POTENTIAL  
DRAWDOWN DUE TO COAL SEAM DEWATERING



Ground-water level measurements

| Well<br>no. | Depth to water (feet) |                  |                   |
|-------------|-----------------------|------------------|-------------------|
|             | April 9,<br>1986      | June 20,<br>1986 | Sept. 27,<br>1986 |
| 2           | 218.29                | 217.75           | 217.66            |
| 3           | 82.00                 | 81.85            | 81.82             |
| 4           | 60.73                 | 60.52            | 60.57             |
| 5           | 20.85                 | 20.83            | 20.09             |
| 6           | 21.34                 | 20.79            | 20.49             |
| 7           | 79.01                 | 78.58            | 78.47             |
| 8           | 13.69                 | 14.09            | 13.83             |
| 9           | 14.19                 | 14.62            | 14.39             |
| 10          | 5.74                  | 5.86             | 5.87              |
| 11          | -1.02                 | -1.05            | -1.05             |
| 12          | dry                   | dry              | --                |
| 13          | 135.04                | 134.99           | 134.72            |
| 14          | 212.56                | 212.54           | --                |
| 15          | 224.51                | 224.34           | 223.58            |
| 16          | 41.72                 | 41.05            | 38.26             |
| 17          | 248.43                | 247.98           | 246.91            |
| 18          | 247.96                | 247.79           | 247.64            |
| 19          | 126.49                | 126.17           | 126.06            |
| 20          | dry                   | dry              | --                |
| 21          | 240.67                | 240.63           | --                |
| 22          | 18.14                 | 17.93            | 14.22             |

(-) Indicates water level above land surface; --, no data.







